

## REMARKS

Reconsideration of this application, as amended, is respectfully requested.

Claims 1-14 and 40 are pending. Claims 1-14 and 40 have been rejected.

In this response, claims 1-13, 14, and 40 have been amended. No claims have been cancelled. No claims have been added. Support for the amendments is found in the specification, the drawings, and in the claims as originally filed. Applicant respectfully submits that the amendments do not add new matter.

The Examiner rejected claim 13 under 35 U.S.C. § 112, second paragraph.

Applicant has amended claim 13 to replace “the reverse strict ordinal ranking “a reverse strict ordinal ranking”, as suggested by the Examiner.

Therefore, Applicant respectfully submits that the Examiner’s rejection of claim 13 under 35 U.S.C. § 112, second paragraph has been overcome.

The Examiner rejected claims 1-4, 6-14 and 40 under 35 U.S.C. § 101.

Specifically, the Examiner was not persuaded by the Applicant’s arguments filed 7/25/2008, in pages 13-17, that the claimed invention is not an abstract idea per se, produces a concrete result, and is not preemption. In response, the Examiner raised four objections, as follows.

One, the Examiner contended that the method of claim 1 can be done by merely thinking about it, which fails to fall within statutory process.

Applicant has amended claim 1 to include “A computer-implemented decision support method”, as the Examiner suggested.

Claim 1 is now directed to a specific machine. Claim 1 as amended is clearly not seeking to claim a fundamental principle such as an abstract idea or a mental process. As the claim is directed to a specific machine, the claim does not pre-empt all uses of an algorithm. The claim is

not effectively drawn to a specific algorithm itself. In *Re Bilski* affirmed the machine-or-transformation test as the governing test for determining patent eligibility of a process under section 101.

As claim 1 is tied to a particular machine, the invention as claimed in claim 1 does not pre-empt all uses of a fundamental principle in any field but is rather limited to a particular use or specific application. The claim is not drawn to the principle in the abstract.

Therefore, Applicant respectfully submits that the Examiner's rejection of claim 1 under 35 U.S.C. § 101 has now been overcome.

Given that amended claims 2-4, and 6-13 depend from amended claim 1, Applicant respectfully submits that the Examiner's rejection of claims 2-4, and 6-13 under 35 U.S.C. § 101 has now been overcome.

Applicant has amended claim 14 to include "a processor coupled to the data memory, the processor configured to perform..."

Claim 14, as amended, includes a processor coupled to a data memory on which is stored two or more predefined criteria. Amended claim 14 further includes a processor coupled to the data memory, wherein the processor is configured to perform a comparative assessment of profiles.

Therefore, Applicant respectfully submits that the Examiner's rejection of claim 14 under 35 U.S.C. § 101 has now been overcome.

Applicant has amended claim 40 to include "A computer-readable medium storing thereon computer executable instructions for performing decision support operations..."

Claim 40, as amended, is directed to a specific machine as it is directed to a computer readable medium storing computer executable instructions for performing operations.

Therefore, Applicant respectfully submits that the Examiner's rejection of claim 40 under 35 U.S.C. § 101 has now been overcome.

The examiner's concerns over abstract ideas, concrete results and pre-emption are respectfully addressed by the amendments and observations made above. Applicant provides further comments on these issues below.

Two, the Examiner contended that the method in the claimed invention merely involves comparing some profiles and solving some equations, and so the method is considered an abstract idea by performing data manipulation using some math algorithm.

Applicant disagrees that the claimed invention is an abstract idea. It is true that the claimed invention involves comparing some profiles and solving some equations, as well as other processes. However, these processes are performed solely for the purpose of producing at least one of three tangible outputs, as described in claims 2-4. These outputs are used by the decision support methods of Multiple Criteria Decision Making (MCDM) and Conjoint Analysis, both of which involve producing rankings of alternatives defined on multiple criteria or attributes. MCDM is sometimes also referred to as Multiple Criteria Decision Analysis and Multiple Attribute Decision Analysis.

Three, the Examiner contended that the Applicant's arguments filed 7/25/2008 are not convincing that given the same input the decision maker would return the same output. Specifically, the Examiner contended that because the undominated pairs are ranked by the decision maker according to his or her value judgements, therefore if the same undominated pair were presented to the decision maker for ranking again, a different ranking might arise, because of the subjective nature of the value judgement concerning the pairwise ranking. The Examiner appears to have misunderstood the Applicant's arguments, which are clarified as follows.

Applicant is arguing that when, on more than one occasion, the decision maker expresses the same value judgement in terms of expressing the same pairwise ranking of a given pair of profiles, then from this same profile ranking (combined with the decision maker's rankings of other pairs of profiles) the claimed invention produces the same output. That is, when the same profiles are given to the decision maker and he or she ranks them the same, resulting in the same pairwise rankings, then the claimed invention will produce the same outputs. Thus the outputs of the invention are not based on subjective criteria and they are repeatable.

To be clear, the claimed invention is not claiming any form of control over the decision maker's value judgements per se and therefore how a decision maker will choose, of his or her own volition, to pairwise rank a given pair of profiles. But when pairs of profiles are ranked the same repeatedly, then the claimed invention will produce the same outputs every time.

Psychological research has observed that decision makers often repeat the same value judgements, i.e. in the present context they rank the same pair of profiles the same, due to the fact that value judgements reflect people's preferences (e.g. likes and dislikes) which can be constant, or at least slow to change over time.

Four, regarding the rejection for preemption, the Examiner suggests that perhaps the claim be amended by adding practical applications from the Specification p. 9, L 16-20 to overcome the rejection.

Applicant has clearly pointed to support for each of the claims passing the eligibility machine-or-transformation test. Applicant respectfully requests the examiner withdraw this objection.

The Examiner rejected claims 1-4, 6-14 and 40 under 35 U.S.C. § 102(b) as being anticipated by "Ranking and Screening Multiple Criteria Alternatives with Partial Information

and Use of Ordinal and Cardinal Strength of Preferencers” by Behnam Malakooti, IEEE, vol. 30, No. 3, May 2000 (hereinafter “Malakooti”).

The Examiner summarised the Applicant’s arguments filed 7/25/2008 under three headings, as (1) Malakooti teaches pairwise ranking and then teaches away from it in favour of other methods, (2) Malakooti’s algorithm is not the same algorithm as the claimed invention, and (3) Malakooti’s algorithm is less effective than the claimed invention.

With respect to heading (1), Applicant accepts the Examiner’s admonition that the question of whether a reference “teaches away” from the claimed invention is inapplicable to an anticipation analysis. Nonetheless, in the Applicant’s arguments filed 7/25/2008, the main objective of pointing out that “pairwise ranking is not Malakooti’s main focus” (p. 20) was to demonstrate unequivocally that “from Section IV onwards, Malakooti is irrelevant to the Applicant’s invention.” (p. 21). Applicant felt it was important to demonstrate this because many of the Examiner’s arguments for Malakooti having anticipated the claimed invention related exclusively to Section IV onwards.

With respect to heading (2) above, that Malakooti’s algorithm is not the same algorithm as the claimed invention, specifically the Examiner admonishes the Applicant for seeming to read too much limitation from the Specification in the Claim.

With respect to heading (3) above, the Examiner suggests that perhaps Applicant can further define “undominated profile pairs” (see spec, p. 12) and how they are generated (e.g. claim 8). Accordingly, Applicant has amended claim 1 to include a definition of “undominated profile pairs”. Applicant amendment to claim 1 is believed sufficient to distinguish the claimed invention from Malakooti. The definition of undominated profile pairs is believed sufficient to distinguish the claim from anything described or suggested in Malakooti.

Applicant has amended claim 1 to include generating undominated profile pairs, each undominated profile pair comprising two profiles wherein one profile has a higher ranked category on at least one criterion and a lower ranked category on at least one other criterion than the other profile.

Malakooti discloses ranking and screening multiple criteria alternatives. More specifically, Malakooti discloses that “the algorithm determines if one alternative is preferred or indifferent to another one or if no judgment can be made based on the existing information about the DM’s preferences.” (p. 356, left column, lines 5-8).

Thus, Malakooti merely discloses determining if one alternative is indifferent to another one. In contrast, amended claim 1 refers to generating undominated profile pairs, each undominated profile pair comprising two profiles wherein one profile has a higher ranked category on at least one criterion and a lower ranked category on at least one other criterion than the other profile. Malakooti fails to disclose such limitations of amended claim 1.

Because Malakooti fails to disclose all limitations of amended claim 1, Applicant respectfully submits that claim 1, as amended, is not anticipated under 35 U.S.C. § 102(b) by Malakooti.

Given that claims 2-4, and 6-13 depend from amended claim 1, and add additional limitations, Applicant respectfully submits that claims 2-4, and 6-13 are not anticipated under 35 U.S.C. § 102(b) by Malakooti.

Given that amended claims 14 and 40 contain the limitations that are similar to those limitations discussed with respect to amended claim 1, Applicant respectfully submits that claims 14 and 40 are not anticipated under 35 U.S.C. § 102(b) by Malakooti.

Accordingly, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. § 102(b).

It is respectfully submitted that in view of the amendments and arguments set forth herein, the applicable rejections and objections have been overcome. If there are any additional charges, please charge Deposit Account No. 022666 for any fee deficiency that may be due.

Respectfully submitted,

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